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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,420	01/27/2000	Katsunori Kumasaka	0694-127	9104

7590 06/27/2003

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EXAMINER

BUDD, MARK OSBORNE

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/701,420	KUMASAKA ET AL.	
	Examiner	Art Unit	
	Mark Budd	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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Claims 4-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are vague, indefinite, inaccurate and/or based on an inadequate disclosure. The claim states "the second electrodes being provided with terminals" "the terminals being connected to the circuit board" and "said piezoelectric transformer and said circuit board being connected by at least one lead wire". The written description (original disclosure) notes the electrodes (thereby the piezoelectric (transformer) are connected to the PCB via wires (e.g. #39, #43, 347 etc). No mention is made of the electrodes (#21, #25, #31 etc) being provided with terminals. It appears that these electrodes are the terminals. Thus, the claims are either inaccurate or based on an inadequate disclosure. Further, it is unclear whether the "terminals" (lines 13-claim 4) and "lead wire" (claim 4, line 18) are the same element with a different name, or are somehow separate, distinct elements. How can these structures be read on applicants fig. 4?

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art, Japan (433) or Japan (327).

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Each of the 'Prior Art' (applicants fig. 1), Japan (327) (figs. 1, 2, 4 and 7-9) and Japan (433) (figs. 1 and 4) teach the laminated modified Rosen transformer with side electrodes. They don't explicitly teach the transformer to be mounted on a PCB that also contains a power supply circuit. However, applicants description of the prior art (e.g. specification pg. 1-3) teaches the transformer is routinely mounted onto a printed circuit board and is also routinely used with a power supply circuit. Placing both on a common PCB to save space and allow integrated circuit construction methods would have been obvious to one of ordinary skill in the art.

Claims 5 and 6 are rejected under 35 USC 103(a) as being unpatentable over Kanayama, Yamamoto or Sato in view of Japan (033), Japan (327) or Prior art (applicants fig. 1).

Kanayama (fig. 23), Sato (figs. 2, 3 & 14) and Yamada (figs. 4 & 5) teach the piezoelectric transformer with multiple pairs of second (output) electrodes. They do not teach the side leads for the drive section or mounting on a PCB with power supply circuitry. However, each of Japan (033), Japan (237) and the Prior Art (applicants figs.) Teach that side leads are conventionally used-especially for laminated structures.

Japan (033) also teaches mounting a transformer on a PCB with associated input/output circuitry. Thus to use side leads for their conventional advantages and to provide integration of circuit element for Sato, Kanayama or Yamamoto would have been obvious to one of ordinary skill in the art.

Claims 10 and 11 are rejected under 35 USC 103(a) as being unpatentable over Inou, Sakarui or Shimizu.

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The references teach supporting a piezoelectric transformer in an elastic manner. They do not teach the specific mounting location. However, optimization of a known device (e.g. thru routine experiment) has long been held to be within the skill expected of the routineer. Thus selection of specific mounting locations would have been obvious to one of ordinary skill in the art.

Claims 12-17 are rejected under 35 USC 103(a) as being unpatentable over Yamamoto in view of Japan (033) as applied to claim 5 above, and further in view of Inoi.

The combination of Yamamoto and Japan (033) has been previously discussed. Neither patent teaches using an elastomeric mount for a piezoelectric transformer. However, such a mount is well known in conjunction with piezoelectric transformers as taught by Inoi. A flexible mount protects the ceramic from harm and isolates it from vibrations in a well known manner. Therefore to use an elastic mount for Japan (033) or Yamamoto for its known benefits would have been obvious to one of ordinary skill expected of the routineer. Such choice amounts to selection from among known connectors and would have been obvious to one of ordinary skill in the art.

Regarding applicants arguments it is noted that regarding claims 10 and 11, it has long been held that optimization of a known device e.g. thru routine experimentation is within the skill expected of the routineer.

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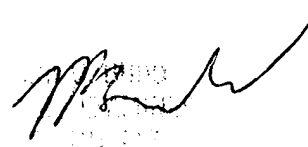
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Selection of mounting areas, usually nodal locations can easily be optimized for a particular application via e.g. trail and error.

Budd/ds

06/19/03

A handwritten signature in black ink, appearing to be 'Budd', with a long, sweeping horizontal stroke extending to the right.